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Macroeconomic environment and its implication on the penetration of insurance business in Nigeria

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Abstract

The Nigeria complex environment coupled with the recurrent economy downturn has poses threats to insurance market in terms of business penetration and market share, both nationally and across the border. This study carried out to investigate how macroeconomic environment has affected the sustainability of Nigeria insurance business penetration. The study adopted expo-facto research design, using correlation analysis to established the present relationship, whiles ordinary least square (OLS) regression model was employed to predict the future relationship between the dependent variable: penetration of insurance business proxies by Insurance Gross Premium (LIGP) and set of independent variables: Unemployment Rate (LUMP), interest rate (LINT), Bank Money Supply (LBMS), Population Growth Rate (PGRT), and inflation rate (LINF). Secondary data were sourced from the Statistical Bulletin of Central Bank of Nigeria (CBN) and the Digest report of Nigeria Insurers Association (NIA), from 1988-2018 and 2011 to 2018 respectively. The findings of the study show the inflation rate (LINF) for the periods of this study has a positive relationship with insurance business penetration (LIGP) in Nigeria, but not significant. Also, bank money supply (LBMS) has affected insurance business penetration (LIGP) in Nigeria positively and significantly; and furthermore, the population growth rate (PGRT) has a positive and significant effect on Nigeria insurance business (LIGP) penetration. However, interest rate (LINT) within the period of this study hurts the insurance business penetration (LIGP) in Nigeria with no significant relationship; and unemployment rate (LUMP) has a negative effect on insurance penetration (LIGP), nonetheless, significant within the time of this research. The study recommends that, there should be compulsory of some insurance policies in the economy, such as health insurance should be compulsory for all citizens. Also, the government on its part should enact and enforce enabling laws the will create enabling atmosphere for the insurance companies in Nigeria to boom, because this is one of the ways the state can make deeper inclusion in the industry to boost the economy.

Keywords: Insurance, unemployment, inflation, population, money supply.

Introduction

Penetration of insurance activities in Nigeria is among the lowest in the world; since almost 86% of Nigerian populace fail to hold any form of insurance coverage. Even though the Nigerian environment experiencing a high and increasing risk level, less than 2% of these risks are covered by insurance firms. The main reason given by Nigerians for not subscribing to insurance products is a lack of awareness of the benefits[1].

In any economic environment, insurance organizations are sensitive to the fundamentals of economics policy formulated by the government and act as a factor in many macro-economic variables for the right investment decision making. The determination to develop the insurance sector by improving its contribution to the country's Gross Domestic Product (GDP) is a joint responsibility of all the firms within the sector and the state[2].

Despite the importance of insurance business for economic development, the gross premium received by the industry in Nigeria is about $1.9 billion compared to the $3.8 billion collected by insurance companies in South Africa[3]**.** The low patronage of the insurance business in Nigeria has become a problematic issue not only to the insurance sector but also affected the economic growth of the nation[4]. One of the major factors militating against the insurance businesses' growth, and the development of industry in Nigeria is the insufficient capital base the companies are operating with. As a result, many of the companies are denied picking a high volume of businesses from local and international oil and gas sectors, marine businesses, and the aviation industry. Still, the industry continues to experience a market practice that is not in tandem with global insurance practices.

Nigeria with a dynamic and complex environment coupled with the series of recessions in the economy has become a bunch of threats to insurance business operations in terms of penetration and solvency. Fundamentally, the causes of low insurance penetration in Nigeria have to do with religious and cultural beliefs; as it is to lack trust on the part of the insurance companies; low income as a result of poverty or bad economy and strife, lack of knowledge about insurance due to low awareness, and cost of insurance because of unaffordable price. Hence, monetary policy can be taken as a measure to cushion the effect and normalize the low patronage and instability of the portfolio posed to the insurance business by the unfavorable environment and economic turbulence. Government of Nigeria for many years has carried out monetary policies and macroeconomic reformation to improve the real investment of portfolio in the financial industry[5]. The prime example is that, the Central Bank of Nigeria relaxed the restriction on the interest rate administration in 1987, and implemented fixing only its lowest rediscount rate policy to show the interest rate preferred direction. Also, the total removal of credit benchmarks for some chosen banking firms that were ruled to be economically sound between 1986 and 1993. Against this background, the study stands to investigate how macroeconomic environment has influence the penetration of insurance business in Nigeria. Therefore, the precise objectives are: To determine the interest rate effect on the insurance business premium in Nigeria; to determine the unemployment rate influence on the gross premium of insurance firms in Nigeria; to evaluate the significant effect of money supply on Nigeria insurance gross premium; to examine the significant effect of population growth rate on the insurance gross premium in Nigeria, and to investigate the inflation rate effect on the insurance gross premium in Nigeria.

Research Hypotheses: i. H_1: Interest rate has no significant effect on the insurance gross premium in Nigeria. ii. H_2: The unemployment rate has no significant influence on the insurance gross premium in Nigeria. iii. H_3: There is no significant relationship between bank money supply and the insurance gross premium in Nigeria. iv. H_4: Population growth rate has no significant effect on the insurance gross premium in Nigeria. v. H_5: The inflation rate has no significant influence on the insurance gross premium in Nigeria.

Conceptual Framework: Money Supply and Insurance Business: High volume of money supplied in the economy will lead to inflation. However, its decrease will result into a drop in inflation level. The volume of money supply in circulation in an economy is an important indicator of economic deepening[6]. Money supply determines the pace of any economic activities[7]. The money supplies as one of the monetary policy variables is influenced by multiplier of money while money multiplier is decided by the required ratio of reserve, ratio of currency, and the excess reserve ratio. By increasing the money supply the apex bank encourages the consumption of individuals in the economy. Also, it influences lending and investment as a result of decreases in the interest rate. The multiplier effect of this on the buying of insurance policies is that there will be enough money for an individual household to save for the consumption of insurance. However, the low money supply in the economy would pose an adverse effect on cash-intensive business owners, such as restaurants, real estate, retail stores as so on, also, the discretionary income of consumers. This will in turn affect the demand for insurance products. In the economy insurance organizations play crucial role as one of the institutional investors that provide capital from their long-term businesses for investment. Aside from the risk management roles, their products, for example: endowment products and, whole life coverage are aspects that offer savings devices for insuring public, and indirect achievement with the investments in other financial companies like the commercial banks, savings homes, and other real financial investments[8]. Since insurance companies play the role of financial intermediation and act as one of the catalysts for long-standing capital that enhances the development and growth of capital market in the economy. Monetary and macroeconomic crisis can affect insurance investment adversely or positively[5].

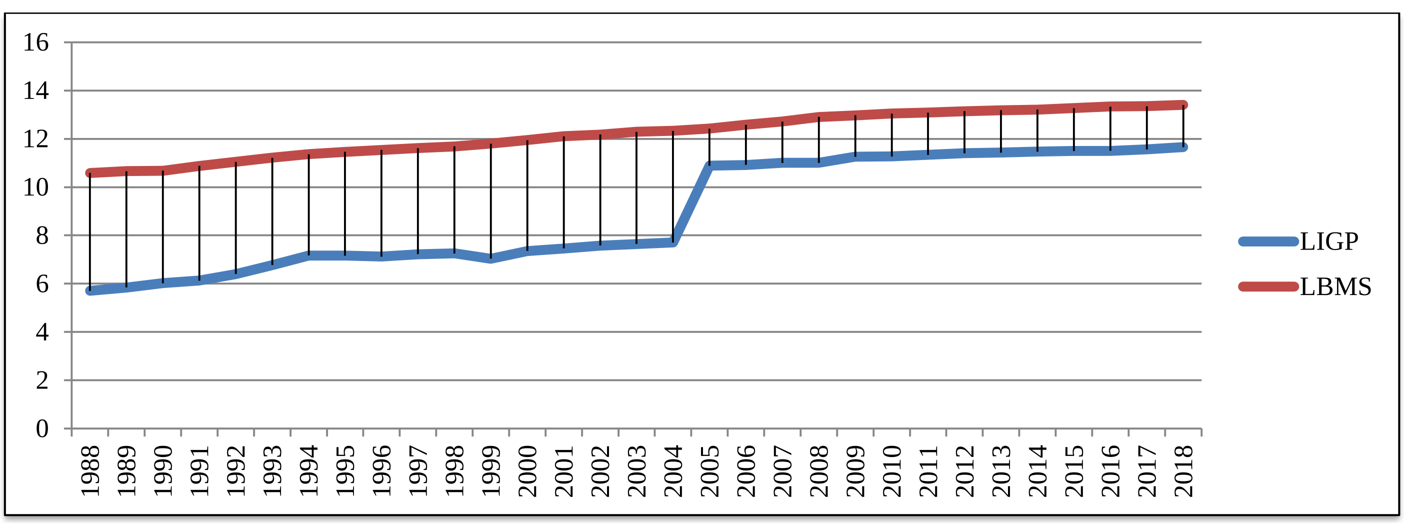

Figure-1: Nigeria Bank Money Supply and Insurance Gross premium.

The Figure-1 shows the relationship between bank money supply and gross premium generated by insurance companies in Nigeria within 1988 t0 2018. From 1988 to 2004 they both experienced fluctuating relationship. While within 2006 and 2018, both money supply and insurance gross premium experienced a significant increase, but not smooth increases as displayed on the graph. From 2004 to 2005 the gross insurance premium moved from 7.7033% to 10.8823 with an increase of 3.18%, while the associated bank money supply rose from 12.3288% to 12.4213 with the increase of 0.09%. However, from 2017 to 2018 gross insurance premium increased from 11.5624 to 11.6519 with a growth of 0.09%, while the corresponding bank money supply shifted from 13.3495% to 13.3993% with a decrease of -0.05. This decrease in the money supply will affect the major financial sectors, especially the insurance industry due to its effect on the saving rate of the insuring public as many existing and potential policyholders might not be able to demand insurance protections within this period.

Population rate and Insurance Business: A high population would be advantageous to the insurance business because it will create an enabling environment for insurers to offer a greater variety of insurance policies to the insuring public. Both in developing and developed economies population will determine the demand and supply of insurance products. A high population rate will allow insurance companies to compete for new customers, but a low population rate will limit them to compete over existing policyholders. However, the statistics of market showed the low performance of Nigeria insurance business. the scholar stresses further that Nigeria underwriters cover less than five percent of the country's insurable population[9]. The paradox of insurance industry in Nigeria is a such that both optimists and pessimists have valid point of view that Nigeria's meager 1% rate of insurance penetration, which means that about 3 million people only in Nigeria possessed any form of insurance coverage[10]. Even though insurance penetration rate in Nigeria is less than 1%, the insurance policies consumed by the insuring public is not across the states of the country.

The Figure-2 depicts the relationship between Nigeria's population growth rate and insurance gross premium from 1988 to 2018. The graph reveals that the increased of insurance premium (LIGP) is greater than the population growth rate in most periods of 2005 to 2018. In 2005, insurance gross premium rose from 2004 by 3.18% while the associated population growth rate rose by 0.03. And in 2018 insurance gross premium increased by 0.09 with the corresponding population growth rate increased by 0.02 from 2017. This indicates a strong mismatch between insurance consumption and the population of the country. This mismatch leads to one of the factors that account for low insurance penetration of insurance business in Nigeria.

Unemployment rate and insurance business: According to International Labor Organization (ILO), unemployed people are "those who are currently not working but are willing and able to work for income, currently ready for work, and have searched for work." The formula for the unemployment rate is =

$$\frac{\text{Unemployed workers}}{\text{total labor force}} \times 100$$

Unemployment in any country is an economic issue that has a direct effect on both household and organization consumption, savings, production, and investment, which can be addressed by macroeconomic policies. At the time of economic downturn, a rise in unemployment of economy normally occurs with spreading of credit, reducing rates of interest and rate of inflation, and increased the volatility of stock market[11]. This means that the unemployment situation will affect many insurers' assumptions. For instance, their sales volume will be affected as a result of low patronage at this period, the lapse rate might be increasing, and there might be a drop in their premium persistency. Commensurate with the downturn in real economic activity, the unemployment rate should trend upwards.

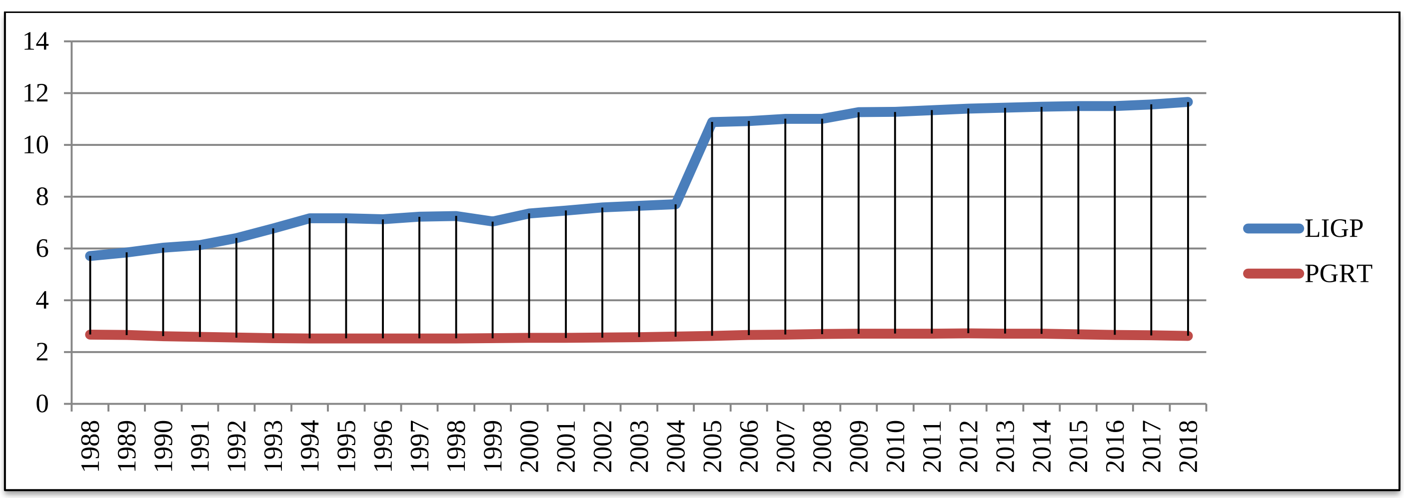

Figure-2: Nigeria Population Growth rate and Insurance Gross premium.

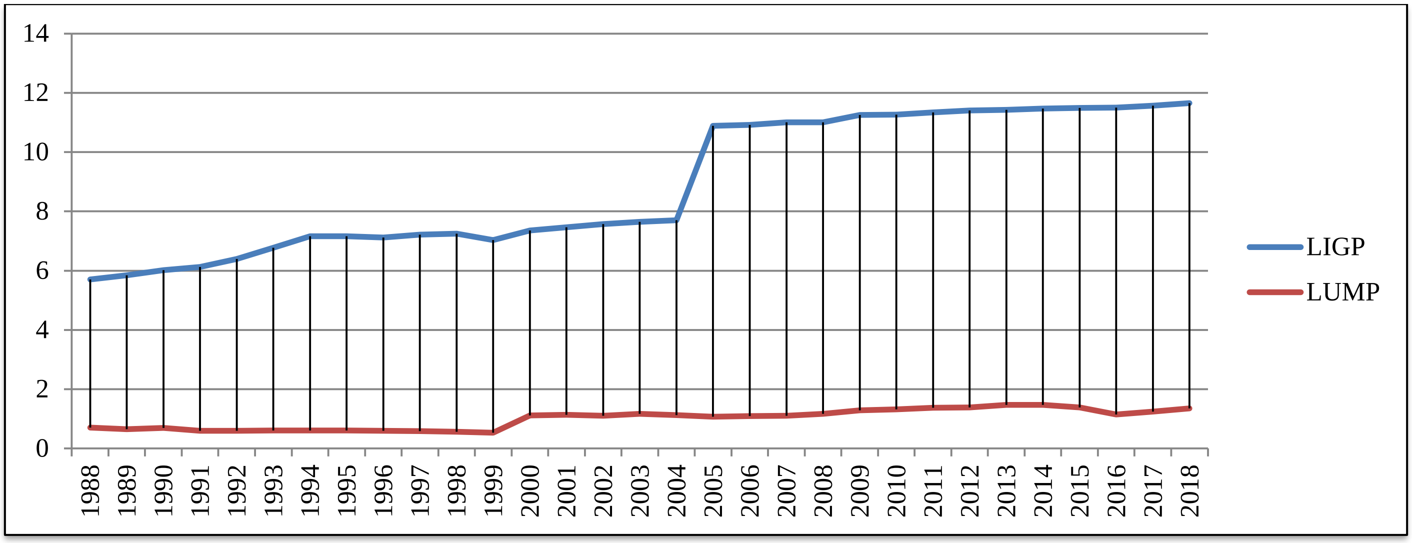

Figure-3: Nigeria Unemployment Rate and Insurance Gross premium.

The Figure-3 shows the level at which the unemployment rate can influence the gross income of insurance companies in Nigeria. The period from 1988 to 2004 indicates fluctuations between the two variables. While within the years 2005 and 2018 the graph depicts the descending relationship between the unemployment rate and insurance gross income. As of 2018 the unemployment rate increase by 0.11% and insurance gross income increase to 0.09% from 2017. However, this indicates that the country is experiencing high rate of unemployment within this period compare, and the consequential effects on insurance penetration within this time will be negative since the economy will be performing below full potential, many people will not be financially capable to think and patronise the insurers for the insurance policy.

Inflation and Insurance Business Penetration: Inflation is seen as a state of a rising in general price level of wide range of goods and services over a lengthy period of time[12]. It is estimated as the ratio of rise in the overall price level over a certain period of time. The impact of inflation on insurance business is that in the future years the renewal of the same number of policies will reflect higher written premiums. Inflation is a continuous increase in the prices, as evaluated by an index like; the consumer price index (CPI) or by the inherent price deflator for Gross National Product (GNP)[13]. This indicates that a higher inflation rate will increase the value of the subject matter to be insured by the insuring public. On the part of the insurer, the claims cost, loading expenses, and administration expenses of the insurance companies which will invariably resulted to a rise in their premium rating in the future, and this will decrease the consumption of insurance policies in the state economy.

The Figure-4 shows the path of aggregate insurance penetration in Nigeria with a special focus on the relationship between insurance gross premium and the inflation rate in Nigeria within the period of 1988 to 2018. Nigeria's economy has experienced high fluctuating relationship within this period. As of 2018, the insurance gross premium rose from 11.5624 to 11.6519 with the achievement of 0.09 growth, while the inflation rate dropped to 0.13% from 1.218102 to 1.082595. However, despite the percentage dropped inflation rate within this period, it is still one of the factors that constitute low insurance penetration in the country.

Interest rate and Insurance Business Penetration: As interest rates increase, the investable assets of the insurer will produce a greater return, and increase the total company return. However, this effect can only be offset by lower underwriting profit. A fluctuation in interest rates will bring about variations in the values of a life insurer's assets and liabilities and potentially exposing the company to risk[14]. For life savings financial instruments, the higher real interest rate will increase the life underwriters' investment returns, and consequentially enable him to have higher revenue of financial relative to real investment for potential policyholders. However, the effect of real interest rate is uncertain and there is disagreement over its effect on buying of life insurance products. The increase in interest rates could decrease the consumption of life insurance policies as high returns on their other assets might switch policyholders from investments in life products to other type of money making investment[15].

Figure-5 shows the connection between the interest rate, and insurance gross premium in Nigeria from 1988 to 2018. The insurance industry within these period experience fluctuations in its increase and the inflation rate experiences the same thing. However, the insurance companies recorded the growth of 0.09% in 2018, while the interest rate in this year increases by 0.06%. Since interest rates affect the consumption of insurance products, especially life insurance policies that can be easily impacted by the fluctuations in the interest rates. This will influence insurance penetration at this period positively.

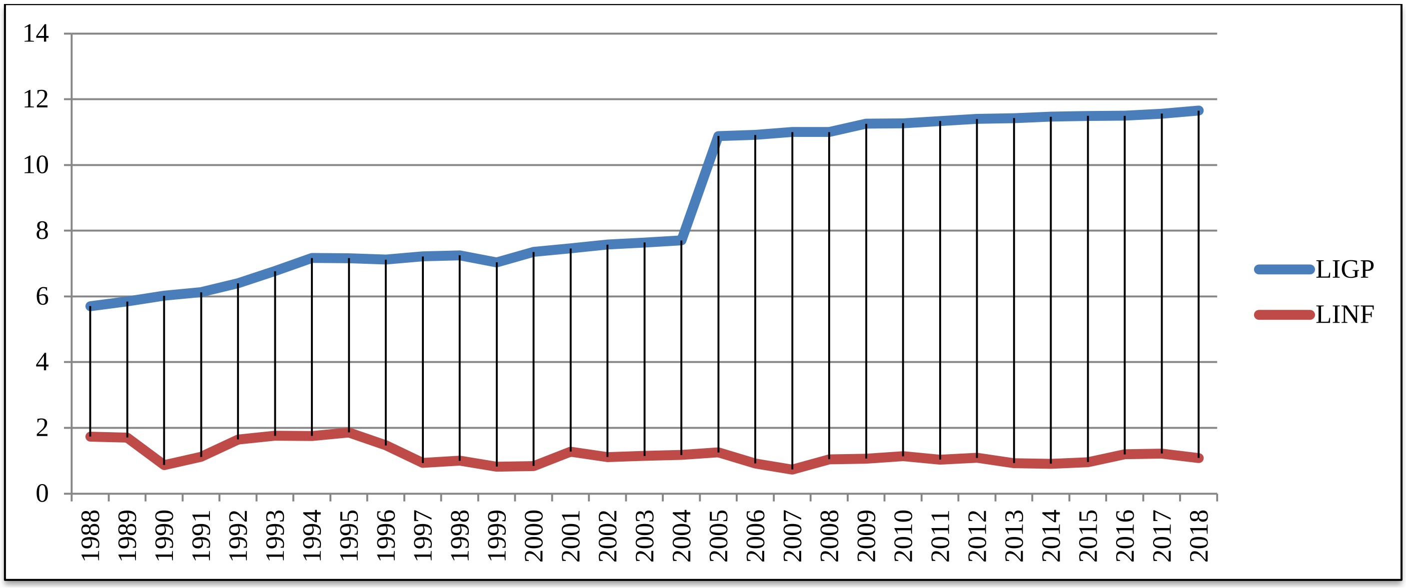

Figure-4: Nigeria Inflation rate and Insurance Gross premium.

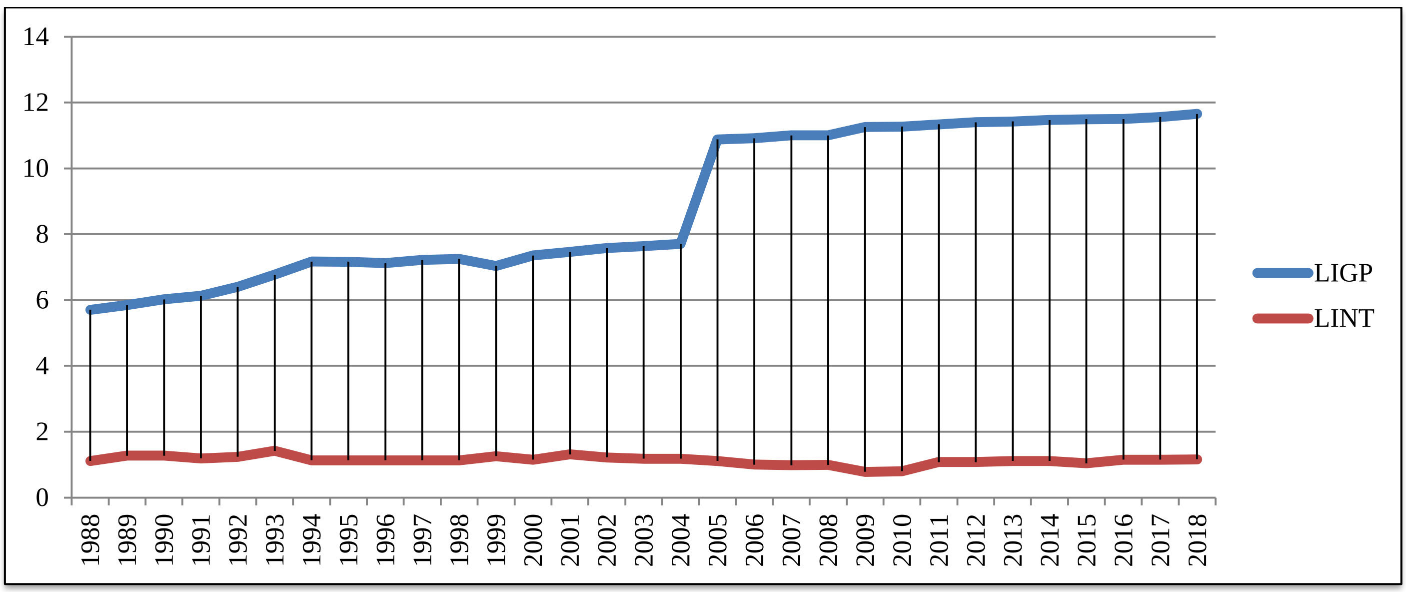

Figure-5: Nigeria Interest rate and Insurance Gross premium.

Literature review: Mutasa researched on the factors of life and insurance of funeral penetration, and the density in South Africa, using least squares regression. The findings of his study show that adolescent dependency ratio affected the consumption of life insurance positively. However, the reverse is the case for funeral. Unemployment hurt the purchasing of funeral insurance, on the other hand it was fascinating to note that the grants level impacted penetration of funeral insurance product positively. Finally, the study discovered that a unidirectional causal connection existed between income and patronage of life insurance business[16].

Salem-Alghusin and Kasasbeh studied the key elements that may determine non-life insurance patronage in Jordan between 1990 and 2015. The study adopted a multiple regression model, particularly applying OLS regression. The result of their study shows that income level, population size, trade activity, and interest rate have affected the demand for non-life insurance in Jordan significantly[17].

Ehiogu, Eze, and Nwite investigated how inflation rate has affected insurance penetration of Nigeria, employing regression analysis. The study showed that rate of inflation influenced insurance penetration in Nigeria positively but not significant. The study suggested among other things that effort should be made to reduce inflation level in Nigeria[18].

Deyganto and Alemu examined the factors that are affecting the business performance of insurers operating in Hawassa City Administration of Ethiopia, using the ordinary least square model to analyse the data through SPSS. The outcome of their study revealed that among the eight (8) manipulated variables considered for the study, only five exposure variables such as premium growth, GDP growth rate, underwriting, solvency ratio, and inflation rate have affected the performance of insurance firms operating in this city significantly[19].

Ezema and Ezekwe researched on how financial deepening reform has influence the premium of insurance sector in Nigeria, from 1986 to 2016 using the VEC model as the technique of estimation. The result shows that comprehensive money supply, credit to the private companies, and GDP deepens premium income of insurance industry for driven higher economic growth in the country. The study recommended that the government should engage financial deepening and development measures to develop the financial segment of the economy by permitting the insurance business to embrace the benefits[20].

Methodology

The study employed expo- facto research design, using zero-order correlation analysis and multiple regression analysis to analyze the data obtained from a secondary source, to capture the present and future relationship among the variables considered for the study. The data was extracted from the Central Bank of Nigeria (CBN) Statistical Bulletin and Nigeria Insurer Association (NIA) from 1988-2018. The sample size of thirty-one (31) for the study. Taken insurance penetration as the Insurance Gross Premium (IGP). The study specifies the model for the determinants of insurance penetration in Nigeria as follows:

$$Y= a_0 + \beta_1 \mathcal{X}_1 + \beta_2 \mathcal{X}_2 + \beta_3 \mathcal{X}_3 + \beta_4 \mathcal{X}_4 + \beta_5 \mathcal{X}_5 + \mathcal{U}_t \quad (1)$$

$$IGP = f\,(INT, UMP, BMS, PGRT, INF) \quad (2)$$

The above model is hereby written in log —linear form as:

$$(L)\ IGP = a_0 + \beta_1\ (L)\ INT + \beta_2\ (L)\ UMP + \beta_3\ (L)\ BMS + \beta_4\ PGRT + \beta_5\ (L)\ INF + \mathcal{U}_t \quad (3)$$

$$LIGP = a_0 + \beta_1\ LINT + \beta_2\ LUMP + \beta_3\ LBMS + \beta_4\ PGRT + \beta_5\ LINF + \mathcal{U}_t \quad (4)$$

Where: LIGP=Logged of Insurance Gross Premium (independent variable), a_0= The intercept, LINT= Logged of Interest Rate, LUMP= Logged of Unemployment Rate, LBMS= Logged of Bank Money Supply, PGRT= Population Growth Rate, LINF= Logged of Inflation Rate.

Correlation Analysis: In showing the present association between the dependent variable (LIGP) and the regressors (LINT, LUMP, LBMS, PGRT, LINF), a Zero-order correlation was performed as shown in Table-1.

Table-1: Correlation Matrix Coefficient for all variables considered for the study.

	χ_1	χ_2	χ_3	χ_4	χ_5	$\mathcal{Y}_1$
χ_1 LINT	1.000					
χ_2 LUMP	-0.479**	1.000				
χ_3 LBMS	-0.526**	0.890**	1.000			
χ_4 PGRT	-0.598**	0.732**	0.606**	1.000		
χ_5 LINF	0.327**	-0.488**	-0.523**	-0.320**	1.000	
$\mathcal{Y}_1$ LIGP	-0.621**	0.846**	0.946**	0.739**	-0.468**	1.000

**. Correlation is significant at the 0.01 level (2-tailed).> (-) 0.59 is significant, Source: Microsoft Office Excel 2020 N = 31 (1988-2018).

Table-2: Unit root table.

Variables	ADF t-statistic at the difference	ADF t-statistic Value	5% Critical value	Probability	Order of integration
LINT	2nd	-8.030735	-2.976263	0.0000	2(1)
LINF	2nd	-5.080574	-3.012363	0.0006	2(1)
UEMP	2nd	-6.089104	-2.976263	0.0000	2(1)
LIGP	2nd	-8.913616	-2.971853	0.0000	2(1)
PGRT	2nd	-6.506417	-2.971853	0.0000	2(1)
LBMS	2nd	-7.852344	-2.971853	0.0000	2(1)

In Table-1 the results reveal that a degree of association was found between LIGP and LUMP r= (0.84**). Likewise, a significant and positive relationship in this analysis was found between LIGP and LBMS with r= (0.95**). Also, there is a positive and significant between LIGP and PGRT with their r= (0.74). However, negative and relationship exist between LIGP and LINT with the r= (-0.62**). Again, a negative relationship exists between LIGP and LINF but not significant with their r= (-0.47**). In all chosen independent variables, the highest degree of a relationship was established between LIGP and LBMS. The reason may be that the insuring public could save much money to afford insurance policies. However, the lowest and negative relationship shows between LIGP and LINF. This may be since high inflation always acts to the detriment of the economy, and when the insuring public's income is depreciated, it will be difficult for them to remember the purchase of insurance policies. Automatically, the effect on the insurance business will result in low penetration.

Regression Analysis: The relevant logs were performed, and the appropriate ratio was calculated from the collected data for both dependent and the set of independent variables. The coefficient of determination (R^2) is used to reveal the fitness of the model to run the data and predict ‘Y’. The t-test statistic is applied to establish whether each independent variable is significant enough in explaining the penetration of insurance business in Nigeria. A 5% level of significance was used. All the assumptions in this study were tested statistically using Microsoft office excel 2010 (Table-2).

The five independent variables that were considered for the study, explained 95.6% of insurance business penetration in the economy as represented by theR^2. This, therefore, indicates that these five variables contribute 95.6% of the penetration of insurance business in Nigeria, while other factors not considered in this study contribute 4.4% of the penetration. Therefore, further research should be conducted to examine the other (4.4%) factors influencing the penetration of insurance business in Nigeria. The Adjusted R^2 statistic is 94.7%, and the standard error (SE) of the estimate reveals the standard deviation of the study sample to be 0.525 (Table-3).

Table-3: Model Summary.

Regression Statistics	
Multiple R	0.978
R Square	0.956
Adjusted R Square	0.947
Standard Error	0.525
Observations	31

The observation is from 1988-2018.

From the ANOVA statistics in Table-4, the F-calculated was 107.696 at 5% significance level. Since F estimated is higher than the F critical value (2.249), this indicates that the models are significant all-round i.e. there is a significant relationship between insurance penetration proxied by Insurance Gross Premium (LIGP) (dependent variable) and set of independent variables: Unemployment Rate (LUMP), interest rate (LINT), Bank Money Supply (LBMS), Population Growth Rate (PGRT), and inflation rate (LINF).

Table-4: ANOVA.

	Df	SS	MS	F	Significance F
Regression	5.000	148.182	29.636	107.696	0.000
Residual	25.000	6.880	0.275		
Total	30.000	155.061			

Table-5: Coefficient Analysis.

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-45.424	7.359	-6.172	0.000	-60.581	-30.267	-60.581	-30.267
LINT	-0.874	0.986	-0.887	0.383	-2.904	1.155	-2.904	1.155
LUMP	-1.979	0.785	-2.520	0.019	-3.596	-0.361	-3.596	-0.361
LBMS	2.477	0.252	9.821	0.000	1.957	2.996	1.957	2.996
PGRT	10.258	2.238	4.584	0.000	5.649	14.867	5.649	14.867
LINF	0.239	0.357	0.670	0.509	-0.496	0.975	-0.496	0.975

Akaike info criterion - 1.719550, Schwarz criterion - 1.997096, Durbin-Watson stat - 1.506774.

From the coefficient analysis in Table-5, the substitution for the equation:

$(LIGP= \alpha_0 +\beta_1\ LINT + \beta_2\ LUMP + \beta_3\ LBMS + \beta_4\ PGRT + \beta_5\ LINF+ \mathcal{U}_t)$ becomes:

LIGP= (-45.424) LINT + (-0.874) LUMP + (-1.979) + 2.477 LBMS + 10.258 PGRT + 0.2357 LINF

Results and discussion

Interest rate: Every insurance company is prone to the exposure of interest rate environment, most especially the life insurance companies because they particularly involve in long term businesses whose present value is the function of interest rates. According to Berends, McMenamin, Plestis, and Rosen, while low-interest rates are advantageous to the economy by facilitating investments and borrowing, a prolonged term of low-interest rates poses difficulties for certain sectors of the economy, for instance, life insurance[14]. In this study, the calculated coefficient for the interest rate (Table-5) is -0.874 with the corresponding p-value of 0.383. This negative sign means that interest rate (LINT) within the period of this study hurts the insurance business penetration (LIGP) in Nigeria with no significant relationship since the p-value is above 0.05. This could be a result of insurers not being sensitive by not consider the embedded risks of interest rate within these periods. This means, a percentage increment in interest rate will result in a 0.9% decrease in insurance business penetration in Nigeria. This result is in line with the work of Boubaker and Sghaierwhich averred that interest rate has an adverse long-run effect on the growth rate of the non-life insurance business (running through error correction mechanism)[21]. Also, Antolin, Schich, and Yermo established in their study that prolonged low-interest rates will hinder investment chances, and have a potentially negative effect on life insurance organizations whose liabilities incorporate a fixed-term investment return or benefit promises, like the case for defined-benefit pension scheme[22]. In the same vein Deyganto and Alemuconfirming it in their study that interest rate has influence the performance of the insurance company in Hawassa city[19].

Inflation: An increase in inflation discourages the public's incentives to save from their income against idiosyncratic shock, leading to monetary uncertainty for the persistence period, therefore making the adverse effect on the consumption of insurance, and invariably leading to low penetration into the insurance market. The estimated coefficient for inflation as one of the explanatory variables in this research is 0.239 with the associated p-value of 0.509. This indicates that a percentage increase in inflation will amount to a 23.9% increase in insurance penetration in the country. This means that the inflation rate (LINF) for the periods of this study has a positive relationship with insurance business penetration (LIGP) in Nigeria, but not significant. This positive relationship could be as a result of many insurance firms within the industry have always considered inflation risk within their internal models, by putting the priority on the adverse effect of persistent inflation rate in the economy when charging a premium rate for their businesses. This result is conforming with the study of Ehiogu and Eze who established that the inflation rate affected insurance penetration in Nigeria positively and significantly[23]. According to Boubaker and Sghaier, a lower than expected inflation rate will increase the profitability and the premiums[19].

Money Supply: High money supply in the economy would play an important role in reducing the risk of exposures and vulnerabilities for the less privileged groups, and improving the financial capacity of the insuring public, especially for people to access micro insurance such as health insurance and insurance products for education. The study shows a positive coefficient of 2.477 as a parameter for bank money supply with the corresponding p-value of 0.000. This reveals that bank money supply (LBMS) has a beneficial and significant effect on patronage of insurance business (LIGP) in Nigeria. This means that a percentage increase in the money supply in the economy will lead to a 0.02 % (2.477/100=0.02%) increase in the consumption of insurance policies in the country. The result is consistent with the work of Macfubara, Norteh, and Gberesuu who established that Growth of money supply has a positive relationship, and significantly affects insurance firms' performance in Nigeria[5]. According to Ezema and Ezekwe, extensive money supply, private companies access to credit, and country's GDP deepens insurance business for better economic development driven. According to the authors, the increase in widespread of money supply (M2) has been a great benefit to the insurance income in Nigeria[20]. Again, Ehiogu and Nnamocha submitted thata shift in Monetary Policy stimulates the influence of interest rate on underwriters' profits[23].

Unemployment Rate: The unemployment rate in the economy poses a negative effect on the insurance market. This is because the affected individuals who are insurance customers will no longer be capable financially to pay insurance premiums. After all, they do not have sufficient regular income at this period. Although, unemployment rate assists the insurance companies to determine the economic outlook of their country when considering the premium rate, management of their capital, and valuation of the business. The calculated coefficient for unemployment in this study is (-1.979) and the corresponding probability 0.019. Revealing that the unemployment rate (LUMP) has a adverse connection with insurance penetration (LIGP), but significant within the time of this research. This indicates that a percent upturn in the unemployment ratio in the economy will reduce insurance business penetration by 0.02% (-1.979/100= -0.019). This could be a result of continuous unemployment being one of the most persistent and imaginable issues facing Nigeria's economy. This result is in line with the study of Mirela and Andreea-Gabriela which established that a significant negative association exists between the total insurance penetration and the unemployment in Romania[24]. Also, the study result aligns with the work of Hicks which reveals that unemployment affects the economy at large more than it does to the insurance sector, but there is some relationship. According to him, high rate of unemployment is a bad indicator for the insurance industry[25].

Population Growth rate: In any economy, a high growth rate of population will influence greater demand, and however, drives a larger supply of insurance products proportionally. Because the population will stimulate the insurers to compete with each other. A larger population will create opportunities for insurance companies to contribute to the economic growth of the country, and strengthen their market, and prevent the underwriters from unfair competition, provided a good regulatory framework is in place to preserve their market trust and to protect insureds' interest. The estimated coefficient for the population growth rate in the model is 10.258 with the probability of 0.000. This means that the population growth rate (PGRT) has a positive and significant effect on the penetration of insurance business (LIGP) in Nigeria. Therefore, a percentage increase in the population growth rate will lead to 0.10% (10.258/100=0.103%) increase in the penetration of insurance business in the economy. The result is coincident with the study of Salem-Alghusin and Kasasbeh which shows that population growth has an influenced non-life insurance consumption in Jordan positively and significantly[17]. Also, confirming the study of Çelik and Kayali the population is connected to life insurance consumption positively[26].

Conclusion

Over the years the Nigerian insurance business has experienced various restructuring, basically to redefine their business operations, re-strengthen them financially, and restore the industry trust into the heart of the insuring public. Despite all these, the growth recorded in the industry has continued to be lesser than one percent compared to other countries in Africa. The study investigated how social-economic factors have affected the penetration of insurance business in Nigeria. The findings of the study show that interest rate (LINT) within the period of this study hurts the insurance business penetration (LIGP) in Nigeria with no significant relationship; the inflation rate (LINF) for the periods of this study has a positive relationship with insurance business penetration (LIGP) in Nigeria, but not significant. Furthermore, bank money supply (LBMS) has a positive and significant effect on the penetration of insurance business (LIGP) in Nigeria; while unemployment rate (LUMP) has a adverse association with penetration of insurance (LIGP), and not significant. And finally, the population growth rate (PGRT) has a positive and significant effect on the penetration of insurance business (LIGP) in Nigeria.

Recommendation: For government and insurance players in the country to effectively manage and increase insurance penetration rate in the country, good proactive measures and reactive strategies are to be putting in place to forecast the changes in the country's insurance market, for continuing increasing penetration rate in the economy the following are recommended: i. There should be compulsory of some insurance policies in the economy, such as health insurance should be compulsory for all citizens. ii. The government should promulgate enabling laws and create the mechanism that will propel micro insurance business in the economy. iii. There should be effective macroeconomic policies in place to ensure a moderate interest rate in the economy to facilitate the flow of economic activities at level playing ground for all economic players, iv. To prevent higher interest rate in the economy the government should control Nigeria inflation rate call it to reverse order. v. Moderate money supply should be encouraging in the economy so that the insuring public can have enough to save for insurance consumption.

References

1. WEBCOUPER (2016). Insurance industry digital activation guide.
2. Okocha, A. (2019). Insurance penetration in Nigeria less than one per cent.
3. Oji, H. (2018). Investors worry over stagnation in prices of insurance stocks. Guardian Newspaper.
4. Ibok. N.I. (2006). Determinant of Insurance Consumption in the South-South Zone, Nigeria. Unpublished Ph. D. thesis, Faculty of Management Sciences, University of Calabar, Nigeria, 16-24.
5. Macfubara, M. S., Norteh, D. and Gberesuu, B. B. (2018). Monetary Policy and Return on Equity of Quoted Insurance Firms: A Time Series Study from Nigeria. *American Finance and Banking Review*, 2(1).
6. Okparaka, V.C. (2018). Impact of General Insurance Business on Money Supply in Nigeria. *Journal on Banking Financial Services and Insurance Research*, 8(5).
7. Bakare, A. S. (2011). An empirical study of the determinants of money supply growth and its effects on inflation rate in Nigeria. *Journal of Research in International Business and Management*, 1(5), 124-129.
8. Ezirim, B. C. and Muoghalu, M. I. (2002). Net Intermediation Behavior of the Financial Superstructure: Comparative Evidence from Commercial Banks and Insurance Companies in Nigeria. *Nigerian Business and Social Review*, 1(1), 1- 20.
9. Usman, O.A. (2009). Scale Economies and Performance Evaluation of Insurance Market in Nigeria. *The Social Sciences Journal*, 4(1), 1-11.
10. Agusto and CO (2017). The Nigerian Insurance Industry: Will it cross the crossroads? Economic Newsletter.
11. Shang, K. (2015). Risk Implications of Unemployment and Underemployment. The Casualty Actuarial Society, Canadian Institute of Actuaries, Society of Actuaries.

12. Balami, D.H. (2006). Macroeconomic Theory and Practice. Salawe prints, Off Leventies, Wulari, Maiduguri, Nigeria.

13. Chude, D. and Chude, P. N. (2015). Impact of inflation on economic growth in Nigeria (2000-2009). *International Journal of Business and Management Review,* 3(5), 26-34.

14. Berends, K., Mc Menamin, R., Plestis, T. and Rosen, R.J. (2013). The sensitivity of life insurance firms to interest rate changes: Economic Perspectives. Federal Reserve Bank of Chicago.

15. Lenten, L. J. A. and Rulli, D.N. (2016). A Time-Series Analysis of the Demand for Life Insurance Companies in Australia: An Unobserved Components Approach. *Australian Journal of Management*, 31(1). DO-10.1177/031289620603100104.

16. Mutasa, N.C.S. (2015). Determinants of Life and Funeral Insurance Penetration and Density in South Africa. Research assignment presented in partial fulfilment of the requirements for the degree of Master of Philosophy in Development Finance at Stellenbosch University.

17. Salem-Alghusin, N.A. and Kasasbeh, H.A. (2019). The Drivers of Demand for Non-Life Insurance. 2nd International Conference on Advance Research on Business, Management, and Economic. Munich Germany.

18. Ehiogu, C.P. and Eze, O.R., Nwite, S.C. (2018). Effect of inflation rate on insurance penetration of nigerian insurance industry. *International Research Journal of Finance and Economics,* 170.

19. Deyganto, K.O., and Alemu, A.A. (2019). Factors affecting financial performance of insurance companies operating in Hawassa City Administration, Ethiopia. *Universal Journal of Accounting and Finance*, 7(1), 1-10. DOI: 10.13189/ujaf.2019.070101.

20. Ezema, C.A. and Ezekwe, K. C. (2018). Financial deepening reform and insurance premium in Nigeria, 1986-2016 - VECM approach. *International Journal of Advanced Research in Management and Social Sciences*, 7(5).

21. Boubaker, H., and Sghaier, N. (2012). How do the interest rate and the inflation rate affect the non-life insurance premiums?. *Bulletin françaisd'actuariat*, 12(24). 87-111.

22. Antolin, P., Schich, S., and Yermo, J. (2011). The economic impact of protracted low interest rates on pension fund and insurance companies. *OECD journal: financial market trends*, 1.

23. Ehiogu, C.P. and Nnamocha, P.N. (2018)**.** Effect of interest rate on profit of insurance companies in Nigeria. *International Journal in Management and Social Science,* 6(07).

24. Mirela, C. and Andreea-Gabriela, D. (2016). The impact of the unemployment rate on the insurance development in romania. *statistical approaches*. Annals of the Constantin Brâncuşi University of Târgu Jiu, *Economy Series*, I(Special Issue).

25. Hicks, S. (2000). Macroeconomic indicators that are useful for insurance companies. London: Dept. for Education and Employment.

26. Çelik, S. and Kayali, M.M. (2009). Determinants of demand for life insurance in European countries. Problems and Perspectives in Management, 7(3).